

MADEIRA USA

E-ZEE GUIDE BACKING & TOPPING



Choosing The Best Backings For Your
Machine Embroidery Project

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Backings, also called stabilizers, are a vital foundation for achieving high quality machine embroidered designs. They are placed underneath the garment when hooping to stabilize the fabric while it is being embroidered. Backings should always be used with machine embroidery! In addition to stabilizing the fabric, they allow the hooped garment to slide more smoothly over the needle arm of the embroidery machine.

The 4 types of backings — and when to use them

Cut Away Backings

Excellent stability, during and after embroidery – remove excess backing with scissors or shears. Most remain with the embroidered design throughout the life of the garment. These backings are soft to the touch and feel smooth when worn next to the skin. Different weights, or thicknesses, are available to match each of your project needs.

Optimal for: non-stable and stretchy fabrics such as knits and lightweight woven fabrics

Tear Away Backings

Temporary stability while hooping and during the embroidery process. Most soften over time and eventually wash away so it is important that the fabric be able to support the embroidered design with normal wear and tear through natural laundry cycles.

Optimal for: tightly woven fabrics such as heavy twill, denim, home décor, canvas and duck cloth

Wash Away Backings

Temporary stability during the hooping and embroidery process. Best used when you do not want any residual backings left over on an embroidered garment. Rinse with warm water or launder to remove.

Optimal for: super stretchy and slippery fabrics such as Lycra® and Spandex.® Cut Away/Wash Away can also be used for stand-alone lace, heirloom and cut-work embroidery

Heat Away Backings (Films)

Embroider directly on film to create stand-alone patches, badges and emblems that are perforated and popped out. Excess material can be removed with a heat gun or heat press.

Optimal for: stand-alone applications. Lighter films are used as a backing or topping with delicate fabrics such as satin and velvet when using water is not an option

Tips for Proper Hooping

Garments hooped too tightly or loosely will cause issues. If they are hooped too tight your design and fabric will pucker when removed from the hoop. Hoop too loosely and you may lose design registration where the elements of the design do not line up. For optimal hooping, start by setting your hoop tension screw first to what you feel will be enough room to accommodate the fabric and backing. This will become easier the more you practice. Try hooping the garment with the backing. If it is so tight that you need a hammer to push it in, stop and loosen the hoop screw until you can somewhat easily press the top hoop in without a lot of effort, but not so loose that it will fall apart when at the machine. Again, this takes practice to perfect. When hooping try placing the bottom part of the top hoop (closest to your abdomen) in first. You will want to slightly tug the top and sides of the fabric so that the fabric inside the hoop is flat. While holding the bottom part of the hoop in place, you can now push the top part of the hoop down. Once hooped, the material should be snug inside the hoop with no movement. If it is not, pull it apart and try again until you have mastered this and can then bring it to the machine to be embroidered. Avoid pulling on the fabric once hooped to remove excess fabric. You run the risk of pulling it too tight causing material puckering and design distortions.

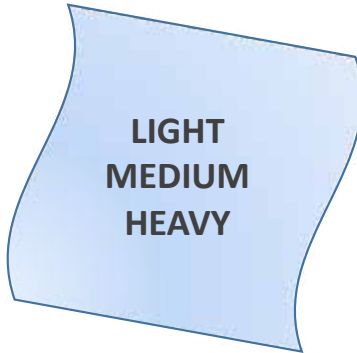


2 Key Elements for Choosing Stabilizers



#1

FABRIC construction determines the **TYPE** of the backing!



#2

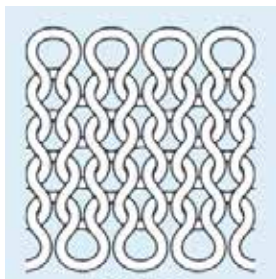
DESIGN type determines the **WEIGHT** of the backing!

#1

Fabric Construction Determines the Type of Backing Used

CUT AWAY BACKING

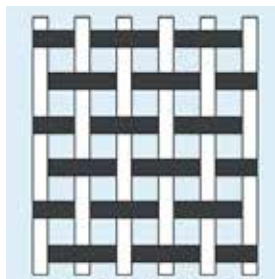
The **backing** supports the design throughout the life of the garment



Knit Fabrics

Examples:

T-Shirts
Sweaters
Polo Shirts
Sweatshirts



Lightweight, Loosely Woven Fabrics

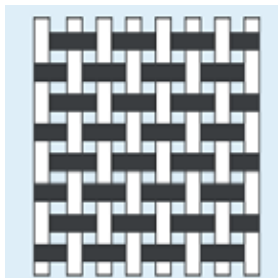
Woven Fabrics

Examples:

Linens
Dress Shirts
Fashion Scarfs

TEAR AWAY BACKING

The **fabric** supports the design throughout the life of the garment



Heavyweight, Tightly Woven Fabrics

Woven Fabrics

Examples:

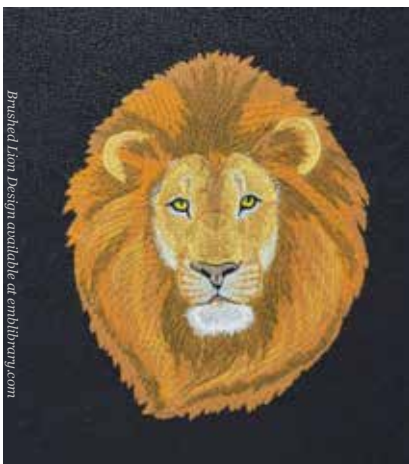
Denim
Caps (Twill)
Canvas Bags

#2 Design Types Determine the Weight of Backing Used

Backing Weights - Basic Cut Away, Basic Tear Away and Soft Tear Away backings are available in different weights or thicknesses. For larger and more dense designs, use a heavier backing. With lighter and more open designs, use a lighter backing. Medium backings are best for the in between designs.

High Stitch Count design consisting of heavy density fill stitches

USE A HEAVIER WEIGHT BACKING



Lion Design
6" wide x 7" high
42,578 stitches



Owl Design
6" wide x 12" high
22,358 stitches

Lower Stitch Count with open design elements of mostly decorative running stitches

USE A LIGHTER WEIGHT BACKING

E-Zee Backing & Topping® Options

Backing

E-Zee Cut® Away Basic Backing – non-woven stabilizers that come in multiple weights or thicknesses to accommodate all manner of designs and densities on unstable knit and lightly woven fabrics. Designs on stretchy fabric will tend to cup or ripple out of shape when not stabilized with a good cutaway layer.

E-Zee Tear® Away Basic Crisp Backing – lightweight, medium weight and heavy weight non-woven stabilizer. These are intended to be used with tightly woven fabrics like denim, canvas, heavy twill and other fabrics that don't require extra stability. The crispness of these stabilizers allows for easy and clean tear away.

E-Zee Tear® Away Basic Soft Backing – soft tear away stabilizers tear away easily leaving light fuzzy remnants that eventually wash away during laundering. Great for use on terry towels with crisp, clean designs and curtains, napkins and tablecloths where backing should not be visible on the underside of the work.

E-Zee Cap® Backing – heavy weight, tear away stabilizers, that are cut into narrow strips to fit nicely within cap style frames. Available in both pre-cuts and rolls to accommodate embroidery on fronts and sides of baseball caps. Using more than one piece can help to ensure that the material is closer to the needle plate to avoid the needle deflection common when embroidering on caps.

E-Zee Cut® Wash Away Backing – true wash away stabilizers that are removed completely with warm water. These non-woven fibrous type backings are great for use with free standing lace, heirloom and cutwork embroidery. They can also be used with sturdy and stable fabrics where you prefer that the backing be removed completely.

E-Zee Performance Wear Backing – medium weight, cut away specialty stabilizers. The thin, low profile materials prevent the “badge effect” often caused when too heavy of a backing, or multiple pieces of a backing are used with thin performance wear garments. They are usually thin and sheer but strong and provide much more stability than their ounce weight indicates. E-Zee Weblon No Show and E-Zee Cut Performance backings fall in this category.


E-Zee Tear® Stick-On Backing – tear away backing with a pressure sensitive adhesive on one side. The release paper protects the adhesive until it is needed. Great for hard to hoop items like, collars, cuffs and delicate fabrics that are prone to hoop burns.

E-Zee Cut® Extra-Stable Backing – basic cut away style backing with an embedded grid that provides enhanced stability for unstable knit and lightly woven fabrics. Great for high stitch and high-density designs.

E-Zee Tear® Waffle Backing – tiny holes in this soft tear away stabilizer make it easier to tear excess backing away, with minimal stress to the embroidered area, once embroidery is complete. Great for delicate woven fabrics and designs where tension on the stitches is a concern.

E-Zee Cut® Weblon Mesh Backing – Medium-weight backing, made of polyester fibers with a melting point of 450 - 460°F. This soft, mesh cut away stabilizer is suitable for infant and children’s wear.

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 **R&D** *Madeira’s E-Zee Backing & Topping® division strives to provide the best quality stabilizers in the market. Internal and random customer testing ensures that each and every product meets or exceeds Madeira’s high standards.*

E-Zee Backing & Topping® Options

(continued)

Backing

E-Zee Appliqué Magic Backing – double sided adhesive backing. Heat activated adhesive secures the backing to your appliqué material while a pressure sensitive adhesive on the other side holds the appliqué template securely in place for the tack down stitches. No need for spray adhesives or heat seals.

E-Zee Badgemaster® – thick water soluble film. Designs are embroidered directly on to the film which is removed completely or partially with warm water. Great for free-standing lace, heirloom and cutwork embroidery.

E-Zee Film Laminate – single sided laminate material; used to seal off the back side of badges and also for re-sealing weather resistant garments that have been embroidered on.

E-Zee Heat Seals – double sided adhesive films used to finish off the back of badges. Also used to adhere badges to caps, bags, jackets and other garments.

E-Zee Badge Film – 100 micron thick film used to create and embroider pop-away badges, emblems and patches. Residual film material can be removed with heat.

Topping

E-Zee Aqua® Supreme Topping – a water soluble topping that prevents intricate parts of a design from sinking into the nap or pile of high profile fabrics. The crispness of a design can be enhanced as well, especially when using a thinner 60 or 75 weight thread. Will dissolve with water or steam. Small bits of topping are removed by dabbing with dampened residual pieces of E-Zee Aqua® Supreme topping, also known as the “bubble gum” technique. Use on top of fabric such as fleece, sweaters, corduroy, terry and other soft fabrics for visibly enhanced designs.

E-Zee Film Lightweight – 30 micron thick film used as a heat away topping or backing. This is the perfect topping for items where water should not be applied such as velvet, some upholsteries, tapestries, etc. Can also be used as a backing for these materials.

E-Zee Backing Finishers – heat-activated non-woven materials cover up the reverse side of embroidery. They give a finished look and provide a smooth surface for sensitive skin. Perfect for babywear, intimates and leisure apparel.



E-Zee 3D Foam – for designs digitized specifically for 3D embroidery. Foam sheets used to produce raised embroidery on caps, jackets and other tightly-woven fabrics. Available in a variety of basic shades for use with corresponding top thread colors.



Fabric Descriptions and Backing Recommendations

Blended/Waffle Knit – stretchy knit fabric. Medium to heavy-weight cut away backing offers optimum stability. Use with water soluble topping for clean and crisp designs.

Ex. Sweaters and sweatshirts various thickness.

Broadcloth – lightweight woven fabric. Use a lightweight cut away backing. Smaller designs work best on this lighter fabric.

Ex. Dress shirts and skirts

Canvas /Duck Cloth (tighter weave canvas) – heavy woven fabric. Use a heavier tear away backing for larger, more dense designs; lighter for smaller, less dense designs. Embroidered designs are practically limitless on these very stable fabrics.

Ex. Totes, bags, footwear, tablecloths

Corduroy – tightly woven fabric with peaks and valleys known as wales. Tear away backings work well for most designs. A water soluble topping will keep stitches from sinking and getting lost in the nap.

Ex: Pants, jackets

Cotton/Cotton Blend Dress Shirts – lightweight woven fabric. A thin no-show cut away backing with smaller designs work best on these lighter fabrics.

Ex: Dress shirts, “Oxford” shirts

Denim – heavy woven fabric. Characteristics are similar to canvas or duck cloth – see recommendations above.

Ex: Jeans, jackets

Faux Leather/Vinyl – non-woven man-made fabric. Use tear away backings. Limit high density designs which are prone to perforating these materials.

Ex: Jackets, purses, upholstery



Embroidered with topping



Embroidered without topping

Fleece – knit fabric with a fuzzy or napped side. One or two pieces of a lightweight, no show backing and a water soluble topping produce clean and crisp designs.

Ex: Jackets, vests, blankets

Jersey – cotton, cotton blend stretchy knit fabric in various weights. Match a cut away backing weight that supports design elements.

Ex: T-shirts, sportswear, bedding

Leather – non-woven, natural fabric. Use tear away backings with a clamping type hoop. Limit high density designs to avoid perforating this non-woven material.

Ex: Clothing, purses

Linen-Cotton Blend – lightweight woven fabric. No-show cut away backing and smaller designs work best on these lighter fabrics. Soft and lightweight tear away backing for when the reverse side will be seen and not worn next to the skin.

Ex: Clothing, curtains, napkins, tablecloths, handkerchiefs

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Fabric Descriptions and Backing Recommendations (continued)

Nylon – lightweight woven material. Use a lightweight cut away backing for stability. Smaller designs and adjusting digitizing keep puckering to a minimum.

Ex: Sportswear, jackets, flags

Nylon Webbing – open weave material. A true wash away stabilizer is best. Additional digitizing may be needed to compensate the open areas in this type of fabric.

Ex: Pet collars, lanyards, sporting goods

Oxford Cloth – light to medium weight woven fabric. A low profile, medium weight cut away backing is best.

Ex: Dress shirts

Pique – loosely knit, textured fabric. Low profile, medium weight, cut away backings work best. A water soluble topping keeps stitches from getting lost in the nap.

Ex: Polo shirts

Polyester Performance – knit material. Stretchy, slippery and very unstable; a challenge to hoop. A low profile medium weight cut away backing paired with a lightweight tear away backing is best. Opt for smaller designs – avoid high stitch count/high density. See page 17 for more tips.

Ex: moisture wicking athletic apparel

Polyester Performance Pique – knit fabric with texture. Use a low profile, medium weight cut away backing for best results. A water soluble topping keeps stitches from sinking down and getting lost in the nap.

Ex: Moisture wicking athletic apparel with texture

Ripstop – light to medium weight woven fabric; an added grid lends strength. Use lightweight cut away backing.

Ex: Tents, banners, jackets, hiking gear

Satin – lightweight woven fabric; slippery and hard to hoop. A soft tear away backing with adhesive can help.

Ex: Gowns, pillows

Soft Shell– medium woven fabric. Tear away backings lend necessary stability during embroidery, even for heavier/denser designs.

Ex. Jackets, outdoor wear

Terry Cloth – heavy woven material with lofty loops. Use a soft tear away backing and a water soluble topping.

Ex: Towels, bathrobes

Terry (French) – medium knit material with a smooth side and soft loops of fibers on the other side. Use a medium weight cut away backing and a water soluble topping.

Ex: Lounge shirts and pants, bathrobes



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Fabric Descriptions and Backing Recommendations (continued)

Twill – medium to heavy woven fabric, very stable. A heavy weight tear away backing works best.

Ex: Jeans, chinos, bags, baseball caps

Upholstery – medium to heavy woven fabric, very stable. Match a medium or heavy weight tear away backing to the fabric weight and design characteristics.

Ex: Table cloths, curtains, totes, wall décor, pet bedding

Velour – knit material, one side is brushed. Use a cut away backing with a water soluble or heat away topping for design clarity

Ex. Pajamas, tracksuits

Velvet – tightly woven material, one side is brushed with a raised pile. Use a soft tear away backing and heat away topping for design clarity. Hooping can be a challenge as hoop burns can be hard to remove with this type of fabric. Using an embroidery spray adhesive and laying the fabric on top rather than hooping will prevent this.

Ex. Eveningwear, children's dresses, pillows, throws

Waffle Weave (honey comb)– non-woven, square embossed material. A soft tear away backing works best.

Ex: Towels, bathrobes, blankets

Quality Backing

A high quality stabilizer has good consistent fibers throughout each piece and will provide optimum stability with machine embroidery. Inconsistent and poor quality backings with inconsistent fibers may result in poor quality embroidery.

Using Performance Backing for Performance Wear Garments

Performance wear fabrics are slick, stretchy and sheer, all factors that can present some unique challenges when adding embroidery to garments made with them. There are four key areas that will require special consideration when learning to embroider on performance wear:

The Nature of the Fabric

- The extreme stretch and slipperiness make hooping a challenge
- Over-stretching the garment should be avoided
- Perfecting the hooping takes time, patience and practice
- Temporary Spray Adhesive may be needed

Designs

- Choose lighter (less stitch-dense) designs
- Consider increasing the underlay and reducing fill area
- Pay special attention to your push and pull compensations

Backing

- Choose a thin but strong stabilizer made for performance wear
- E-Zee Cut Performance is woven cut away
- E-Zee Weblon No Show is an embossed, non-woven cut away
- A single layer can stabilize designs up to 7,000 stitches
- 2 layers can be used for designs higher than 7,000 stitches

Threads

- When digitized correctly, nearly any thread can be used
- Softer, more pliable threads like Madeira Classic Rayon “fight” less with the fabric, allowing the stitches to lie flat
- Polyneon and Frosted Matt threads are excellent choices due to their bleachability and fastness to sunlight

Helpful Hints

Adding a light to medium weight tear away on the bottom of your cut away layer during hooping can create a firmer foundation for stitching.

Tips for removing Cut Away Backing

To avoid nicking the fabric when trimming away excess E-Zee Cut® Away stabilizers, hold the stabilizer while trimming and let the garment drape. Be sure to face it so you can see both the edge of the design and the fabric while you are trimming. Leave between ¼” to ½” around the design.

Tips for removing Tear Away Backing

When removing E-Zee Tear® Away stabilizers, begin by pulling the excess from where there are points on the design, such as corners or thin columns. Tear from the outer edge in towards the design, which will produce a minimal amount of pressure and the least amount of distortion on the design.



Temporary Spray Adhesives

Embroidery spray adhesives are temporary and fade away over time. They can be used when needed for stretchy and slippery fabrics that tend to be challenging to hoop. Always apply adhesives to the backing and never on the garment itself to avoid glue build up.



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